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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,010	07/11/2003	Jerry Pettersson	911568660-001	4389
28104	7590	09/07/2005	EXAMINER	
JONES DAY 77 WEST WACKER CHICAGO, IL 60601-1692			HOLTON, STEVEN E	
			ART UNIT	PAPER NUMBER
			2673	

DATE MAILED: 09/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/618,010

Applicant(s)

PETTERSSON, JERRY

Examiner

Steven E. Holton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) •
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) •
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the trackball (claims 4 and 14), light source (claims 5 and 15), charge coupled device (claims 6 and 16), digital camera (claims 7, 8, 10, 17, 18 and 20), decision means (claims 9 and 19) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate

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changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 2 and 12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claims note the use of the handheld device in Arcadian display environments. This term is confusing and not defined within the art. The standard definition of Arcadian is someone from Arcadia or peaceful and simple. Neither of these definitions provide a useful definition of an Arcadian display environment. Does this mean that the cursor is cancelled when in use in Arcadia? Or in a peaceful or simple

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display environment is the cursor removed? The Examiner notes that it seems more likely that the intended meaning was one of when using the device in an arcade-style game program the mouse cursor is disabled so that control is provided to a different icon. However, Arcadian has no association to arcade and the meaning of claims 2 and 12 is not enabled by the teachings of the specification.

Claims 9 and 19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The decision means recited in the claim language are not described within the detailed description of the invention. The term is mentioned in the summary of the invention (paragraph 18) but no further explanations of 'decision means' are given. Discussion in the specification regarding lifting the device to cause an action is provided (paragraph 41) but such discussion is drawn towards turning the device on and off rather than triggering a decision regarding an objected depicted by the cursor. Further there is no discussion as to how an object is depicted by the cursor. The cursor is used to indicate a location on the screen and point at objects located on the screen; however, there is no mention within the specification of the cursor depicting an object. Thus, claims 9 and 19 are rejected due to a lack of information provided about the limitations used within the claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3, 4, 11, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rudell et al. (USPN: 6200219), hereinafter Rudell.

Regarding claims 1 and 11, which describe a handheld electronic device and associated method of operation. Rudell teaches a handheld electronic device (Fig. 1, element 10) with a position sensing means (Fig. 4, elements 45, 46, 48, 49, and 50, commonly called a trackball) on the rear side of the device. Where when the position sensing means is moved on a working surface (Fig. 5, element 51) a display screen (Fig. 1, element 14) shows a cursor (Fig. 2, element 16) that moves in response to the movement of the device. The Examiner notes that Rudell does not expressly name a device-to-cursor position coordinate data conversion means, but such a means would be inherent within the device so that the movement of the device could correspond to the movement of the cursor on the screen. Without such a conversion the device would be unusable. Further, the Examiner takes Official Notice that it is well-known in the art to provide a ratio of device movement and coordinates to on-screen movement and coordinates for handheld input devices such as mice and trackballs. The conversion allows the user to move the input device distances that do not correspond directly to the screen environment and allow for smaller movement of the input device.

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Regarding claims 3 and 13, Rudell teaches that moving the handheld device in a specific direction will then move the cursor/vehicle image in the corresponding direction on the screen (col. 2, line 65 to col. 3, line 5). Such movement is within an X and Y coordinate system.

Regarding claims 4 and 14, Rudell teaches the use of a trackball as an input system (Fig. 4, element 46).

Regarding claims 5 and 15, Rudell teaches that the sensor used could also be an optical sensor (col. 5, lines 20-22). The Examiner takes Official Notice that it is well-known in the art that a computer mouse with an optical sensor operates by using light reflected from a surface to determine the motion of the mouse.

5. Claims 6-8, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rudell in view of Lee (USPN: 6392632).

Regarding claims 6 and 16, as discussed above Rudell discloses all of the limitations of claims 5 and 15 that are part of claims 6 and 16 respectively. However, Rudell does not expressly disclose using a charge coupled device to detect reflected light as part of a coordinate input means. Lee discloses an optical mouse (Fig. 2, element 10) with an integrated camera (Fig. 2, element 34). Lee further discusses that the sensor (shown as a CMOS sensor) can also be a charge-coupled device (col. 4, lines 8-12) that detects light emitted from a light source (Figs. 2 and 3, element 38).

Rudell and Lee are analogous art because both deal with handheld coordinate input devices. At the time of invention it would have been obvious to one skilled in the

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art to replace the trackball input system used by Rudell with a light sensor input system as disclosed by Lee. The motivation for doing so would have been to produce an input system that would be "compact, cost-effective to manufacture, and immune to the wear that a rolling ball mechanism is susceptible to (Lee, col. 2, lines 41-42)." Therefore, it would have been obvious to combine Rudell and Lee to produce a device and associated method of operation of claims 6 and 16.

Regarding claims 7 and 17, Lee discloses the sensing device is a camera that acts as a sensing means in one mode of operation (col. 3, lines 63-66 and col. 6, lines 3-32 and detailed discussion of Figs. 2A and 2B).

Regarding claims 8 and 18, as discussed above Rudell discloses all of the limitations of claims 1 and 11 that are part of claims 8 and 18 respectively. However, Rudell does not expressly disclose using a camera as a coordinate input means. Lee discloses an optical mouse (Fig. 2, element 10) with an integrated camera (Fig. 2, element 34) that is used to detect the position of the mouse (Fig. 2B and col. 5, line 20 to col. 6, line 2).

Rudell and Lee are analogous art because both deal with handheld coordinate input devices. At the time of invention it would have been obvious to one skilled in the art to replace the trackball input system used by Rudell with a camera input system as disclosed by Lee. The motivation for doing so would have been to produce an input system that would be "compact, cost-effective to manufacture, and immune to the wear that a rolling ball mechanism is susceptible to (Lee, col. 2, lines 41-42)." Therefore, it

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would have been obvious to combine Rudell and Lee to produce a device and associated method of operation of claims 8 and 18.

6. Claims 10 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rudell in view of Lee in further view of Nakada et al (JP 04336445; cited in Applicant's specification, paragraph 37).

Regarding claims 10 and 20, as discussed above, the combination of Rudell and Lee produce a device as specified in claims 7 and 17 that are part of claims 10 and 20 respectively. However, neither Rudell nor Lee expressly discloses using a camera coordinate input system to determine coordinates in three dimensions. As stated within the specification (paragraph 37), Nakada et al. disclose a method of using a camera to produce three-dimensional coordinates based on image processing involving brightness levels.

Rudell, Lee and Nakada are analogous art because all deal with coordinate input methods and devices. At the time of invention it would have been obvious to one skilled in the art to utilize image processing techniques of Nakada with an input device with a camera input system used by Lee. The motivation for doing so would have been to produce a device able to provide coordinate readings in three dimensions rather than two dimensions, thus providing more flexibility and use as an input device. Therefore, it would have been obvious to combine the teachings of Rudell, Lee and Nakada to produce a device as specified in claims 10 and 20.

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Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Singh et al. (USPN: 6400376) discloses a handheld electronic device able to move a mouse cursor on a display housed in the device. Singh et al. further uses an input system with accelerometers to provide input coordinates for three dimensions.

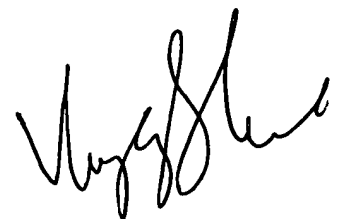
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven E. Holton whose telephone number is (571) 272-7903. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S.E.H.
August 23, 2005

Steven E. Holton
Examiner
Art Unit 2673



VIJAY SHANKAR
PRIMARY EXAMINER